Period: Date: Name:

**Solar Structure Notes**

I. The Sun

A. General Info

i. The sun is one of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars in the \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_.

ii. It is Earth’s primary source of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

iii. It is the only star we can study closely because other stars are so \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ that only appear as points of light even in the largest telescopes.

B. Basic Data

i. The sun’s diameter is \_\_\_\_\_\_\_km, or roughly equal to \_\_\_\_\_\_\_ Earth diameters.

ii. Its mass is \_\_\_\_\_\_\_\_\_\_kg, which is 332,000 times that of Earth’s, but its volume is \_\_\_\_\_\_\_ MILLION times greater than Earth’s; which is why the sun’s density is only \_\_\_\_\_\_ that of solid Earth.

C. The sun has \_\_\_\_\_\_\_ major parts

1.

2.

3.

4.

D. The photosphere:

i. (photos = \_\_\_\_\_\_\_\_\_\_\_, sphere = \_\_\_\_\_\_\_\_\_\_), this layer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ most of the sunlight we see and can be thought of as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ “surface” of the sun.

ii. Appears \_\_\_\_\_\_\_\_\_\_\_\_\_ when viewed through a telescope due to bright markings called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. These bright regions are usually the about the size of \_\_\_\_\_\_\_\_\_\_\_\_, last for only \_\_\_\_\_\_\_\_\_\_\_ minutes and are surrounded by narrow darker (cooler) regions.

iii. The rising hot gas and sinking cooler gas, which causes the boiling effect in the photosphere is called is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

iv. The sun’s surface is \_\_\_\_\_% Hydrogen and about \_\_\_\_\_% Helium.

E. The Chromosphere

i. This transparent layer is above the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

ii. Hot, low density gas which produces an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ spectrum.

iii. To dim to be visible except for when viewed in certain conditions.

iv. Red in color because of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (element).

F. The Corona

i. (corona = crown), outermost portion of sun’s atmosphere and is only visible when the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is covered.

ii. Made of \_\_\_\_\_\_\_\_\_\_\_\_\_ gases, that travel fast enough to escape the sun’s gravitation pull.

iii. These gases flow away from the sun and hurl streams of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the solar wind, at other bodies in the solar system

iv. Earth’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ field prevents the solar winds from reaching our surface, but the solar winds do interact with our atmosphere creating the aurora.

v. Very \_\_\_\_\_\_\_\_\_ temperatures in the corona due to its very low density.